Organizational Models and Perspectives in Dental Healthcare in Italy

Bocconi University, July 2008
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SOURCES

ISTAT official documents and statistics, in particular “I consumi delle famiglie”, different editions.
Research by CENSIS, IPSOS-Key Stones, ANDI about citizens’ behaviour in dental care
Official documents by ANDI Centro Studi
Provincial Data for Albo degli Odontoiatri
Department of University and Scientific Research for Students and Graduated in Odontoiatry
Department of Economy for Fiscal Data
Nomenclatore e Tariffario ANDI
Balance Sheet of Istituto Stomatologico Italiano
OCDE, Department of Health and CERGAS studies for health expenditure data
1. Sector Analysis: Mapping out the main actors

The Italian dentistry sector comprises the following actors:

- Professional MDs (51,975 physicians and dentists registered to the National Dentists’ Register as of 2006, see table 1) operating in 34,238 dental offices (in 2002, source Ministry of Economic Affairs)
- Dental technicians (15,299 offices with 25,775 members)
- Dental hygienists (1,500) and assistants (90,000)
- Administrative personnel (N/A)
- Dentistry supply firms (125 with 5,000 employees)
- Dentistry distribution firms (250 with 2,100 employees)
- Dentistry import firms (75 with 2,200 employees)

Two key messages:
1. Dentistry sector is highly fragmentated, with several small-size dentist offices and dentistry firms;
2. But there is high interdependence among actors within the production and supply chain of dentistry services and products.

The number of dentists has a remarkable growth during last decade. Dentists were 39,601 in 2000 and 51,975 in 2006, with a 31% growth.

In Italy there is a dentist for every 1.138 inhabitants while International Standard suggested by WHO is a professional every 2.000 inhabitants (for the following data see table 2 and 3).
Major part of dentists 47.5% are located in the Northern side of Italy (47.5%), 21.5% in the Central part and 31.0% in the Southern side (including Islands).

As for Regions, 16% are in distributed Lombardia; 10.5% in Lazio; 8.4% in Veneto and 8.2% in Campania.

Three Regions report the highest density level: Liguria (1 dentist for every 792 inhabitants); Abruzzo (1 dentist for every 873 inhabitants) and Friuli Venezia Giulia (1 dentist for every 947 inhabitants).

Three Regions report the lowest density level: Valle d’Aosta (1 dentist for every 1,642), Basilicata (1 dentist for every 1,638), and Sardegna (1 dentist for every 1,448).

We studied professionals distribution among Provinces focusing on the Provinces from Northern and Central Regions, with more than 400.000 inhabitants.

Available data for 2007 show the lowest density of dentists in the following Provinces: Reggio Emilia, Alessandria, Cuneo, Bolzano-Bozen, Bergamo, Vicenza.

The following Provinces experience the highest density of dentists: Genova, Pavia, Bologna, Padova and Firenze. In these cities are located old and famous Universities of Medicine and Dentistry.

Considering age and gender profile of professionals we noted the following issues (see table 4 and figure 1):

- Dentists aged more than 65 years are 2,250 (4.3%)
- Dentists aged less than 35 years are 7,887 (15.1%)
- The average is 46.3 years (48.2 men and 40.8 women)
- Modal value is 52 years for men ( 37 for women)
- Women Dentists are 13,310 (25.4%), but they account for 67.9% within the 35-39 years range and for 41.3% within the 24-34 years range

In the last years this profession has becoming typified by presence of women dentists, especially in Northern regions, while males dentists are more located in South Italy.

A 2002 Sector Survey of the Ministry of Economic Affairs reports there were 34,238 dentist offices, largely 57.7% classified as “small size office” (57.7%). In fact only 1,120 dentist offices were classified as “large size”. Middle size offices with employees were about 6,000 (17%). Other typologies of dentists office are:

- middle and large size but without employees (about 2,000)
- dental offices specialized in partial denture devices (1,290 - 3.8%)
- dental offices specialized in dental surgery, paradonthology and implantology (4.234 - 12.45%).
These data show that professionals would mainly work as autonomous dentists, running their own dental practice. This attitude is confirmed also by low number of professional for every dentist office (there is 1.5 dentist for every dentist office).

We assessed the relationship between professionals and dentist offices through an analysis focused on 8 Provinces from Northern and Central side.

Distribution of dentist offices and professionals. Year 2007

<table>
<thead>
<tr>
<th>Province</th>
<th>Registered</th>
<th>Offices</th>
<th>Inhabitants per office</th>
<th>Dentists per office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bergamo</td>
<td>809</td>
<td>598</td>
<td>1.627</td>
<td>1.35</td>
</tr>
<tr>
<td>Lecco</td>
<td>235</td>
<td>228</td>
<td>1.366</td>
<td>1.03</td>
</tr>
<tr>
<td>Varese</td>
<td>875</td>
<td>570</td>
<td>1.425</td>
<td>1.54</td>
</tr>
<tr>
<td>Lodi</td>
<td>140</td>
<td>124</td>
<td>1.594</td>
<td>1.13</td>
</tr>
<tr>
<td>Verbania</td>
<td>143</td>
<td>99</td>
<td>1.606</td>
<td>1.44</td>
</tr>
<tr>
<td>Vercelli</td>
<td>137</td>
<td>107</td>
<td>1.653</td>
<td>1.28</td>
</tr>
<tr>
<td>Alessandria</td>
<td>384</td>
<td>229</td>
<td>1.826</td>
<td>1.68</td>
</tr>
<tr>
<td>Terni</td>
<td>430</td>
<td>285</td>
<td>1.673</td>
<td>1.51</td>
</tr>
</tbody>
</table>
We can note the following key issues:
1. *The density of inhabitants for every dentist office is almost alike*
2. *The density of professionals for every dentist office significantly changes*

In order to evaluated trends concerning number of professionals, we studied education data of the 30 Universities with a Department of Dentistry.

Graduated, registered and enrolled students from University of Medicine and Dentistry. Years 2000-2006

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduated</td>
<td>840</td>
<td>1,068</td>
<td>1,230</td>
<td>1,390</td>
<td>1,520</td>
<td>1,537</td>
<td>1,198</td>
</tr>
<tr>
<td>Registered</td>
<td>9,165</td>
<td>8,878</td>
<td>8,412</td>
<td>8,016</td>
<td>7,365</td>
<td>6,731</td>
<td>6,287</td>
</tr>
<tr>
<td>Enrolled</td>
<td>749</td>
<td>759</td>
<td>846</td>
<td>658</td>
<td>623</td>
<td>545</td>
<td>530</td>
</tr>
</tbody>
</table>
We noted the following issues:

1. It is evident a consistent decrease among graduated and registered students; since 2006 the number of enrolled students decreased as well

2. This decrease occurs mainly among male students and in the Northern side

3. The number of graduated students is expected to be approximately 500 (200-250 in the Northern side, 200 in the Central side and 100 in the Southern side)
2. Demand of dental services

The DMFT (Decayed-missing-filling teeth) at 12 years indicator value was 2.1 for Italy in 2000, very high compared to Germany (1.2), Spain (1.1), UK (0.9) and France (1.9).

Between 1990-2000 DMFT decreased from 4.1 to 1.2 for Germany and from 4.2 to 1.7 for Austria, as only from 4.0 to 2.1 for Italy.

Number of patients going to the dentist’s office once a year shifted from 19.9 millions in 1999 to 17.8 millions in 2002 (-8%) (source: Key Stone)

ISTAT estimated there were 16.1 million patients using dentist offices in 2002.

ISTAT estimated 7.7 millions of families had at least one member seeking dental care in 2001 (number of families = 22.813.190; average members of a family = 2.5)

In Italy two-thirds of families don’t seek dental care once a year.

The highest percentage of families using dental care services occurs in Emilia Romagna (45%), Veneto (44.9%), Umbria (41%), Lombardia and Toscana (40.5%)

The lowest percentage of families using dental care services occurs in Sicily (20.4%), Basilicata (23.5%) and Lazio (25.3%).

Finally, surveys about demand for dental services agree with the evaluation of a poor qualitative and quantitative level of public services. In Italy, National Health Service (SSN) supplies only 0.6 visit in a year for every inhabitants respect to values of 1.8 for Belgium, 1.4 for Germany and 2.1 for Netherlands.
3. Public and private expenditure in healthcare services

In Italy total health expenditure (private and public) was 8.9% of GNP in 2005, with a per-capita expenditure of 2,532 US $.

From 2000 to 2005 Italy healthcare expenditure grew with a 2.4% yearly rate compared to the 4.3% average among OECD Countries.

Public healthcare expenditure was 76.6% of total healthcare expenditure in 2005.

Private expenditure comprises different items:

- Drugs
- Clinical investigations
- Rx exams
- Nurses, physioterapists
- Disposables
- Dental services

Public healthcare organizations only provide 5-8% of dental services because of lack of trust among patients (37.4%), waiting lists (29.3%), informal advice among peers (10%) (Source Censis, 2003).

Ipsos Explorer – Key Stone in 2000 carried out the following sector analysis:

| Dental sector in Italy: number of patients and expenditure in 2000. |
|-----------------|-----------------|-----------------|
| Patients        | Average expenditure (Euro) | Total Expenditure (billions Euro) |
| North West      | 5.620.000        | 613,8           | 3,408           |
| North Est       | 4.390.000        | 469,6           | 2,014           |
| Centre          | 4.290.000        | 634,0           | 2,686           |
| South and Isles | 5.100.000        | 496,2           | 2,531           |
| Italy           | 19.400.000       | 549,0           | 10,639          |

In 2001 ISTAT estimated private expenditure for dental services was 9.6 billions Euro, with a 432 Euro average expenditure per family, and a 1.247 Euro cost per family seeking dental care. According to ISTAT data for 2001:

- 24.7% of private expenditure occurred in Lombardia and 17.2% in Veneto
- The highest expenditure level per family was appraised in Friuli Venezia Giulia (1.078 Euro)
- The lowest expenditure level per family was appraised in Sicilia (113 Euro)

According to ISTAT data regarding families consumption in 2004:
The monthly expenditure for a family using dental care services was 368.88 Euro with a 4.1% decrease compared to 2003.

Expenditure was higher in the North-West side (392.55 Euro) and South (390.30 Euro) and lower in the Islands (247.45) and Central side (331.41) monthly.

Families without children and with members aged more than 65 years would spend 507.77 Euro monthly.

Families with children and with members aged less than 65 would spend 382.03 Euro monthly.

Single people aged less than 65 years would spend 195.95 Euro monthly.

Single people aged more than 65 years would spend 368.41 Euro monthly.

According to a CENSIS - Biomedics Research Forum survey, in 2002:

- 37% of Italian citizens sought private dental care providers, out-of-pocket (OOP) in 2001.
- OOP expenditures were associated to: specialized dental care services (49%); general dental care (42.8%) and diagnostics (34.9%).

According to a 2003 Censis Report “La qualità dell’assistenza odontoiatrica privata in Italia” (“The Quality of Private Dental Care in Italy”), using 1.300 adults from the whole Country as population sample for the survey:

- The average expenditure for a single dental care treatment was 476.70 €
- The yearly average expenditure was 343.70 €
- The yearly expenditure for a family was 740 €

The above quoted reports and data and our evaluation of health care sector can summarized in the following key sentences:


2. In last years two different effects took place:
   a. the decrease in the number of patients due to the economic trends and constraints;
   b. the growing costs of technology, human resources, housing, disposables and so on.

3. A realistic appraisal in private expenditure for our country in the dental services for 2007-2008 can be estimated in 12-13 billions €, equivalent to the half of the total private expenditure in healthcare services.
4. Regional public services

The volume and type of public dental care services depends on Regional healthcare policies. The so-called Regional LEA (Livelli Essenziali di Assistenza) provide different arrangements as for dental care among Italian Regions. For instance:

- in Valle d’Aosta young (< 16 years) and adults with the minimum social level of income are ensured free services;
- in Marche young people (< 18 years), old people (>65 years) and handicap people access to free dental care;
- in Umbria young (< 14 years), unemployed, retired with low incomes, some selected categories of handicap people have right to free assistance.

LEA generally include:

- Prevention and diagnostic services
- Caries and treatment for caries-associated complications
- Treatment of paradontal diseases
- Emergencies
- Treatment of dental occlusion and dental bone-related problems

Some Regions such as Lombardia and Emilia Romagna are assessing how to integrate current LEA with an higher level of dental assistance through specific funds. These Regions propose an healthcare insurance scheme for all citizens, who can individually and independently apply. The insurance would be financed through taxation.

Currently, the political debate is assessing the feasibility of some proposals to establish integrated regional funds in order to cover expenditure for dental services.

We can see potential room for private contracted providers.
5. Fiscal data about Dental Sector

An important step of our study was the analysis of fiscal data concerning year 2004. Source of this data is Ministry of Economy. We consider the so-called Sector Study UK21U published by Department of Economy. This study is the evolution of former TK21U sector study and it concerns economic activities classified with ATECOFIN 2004 code 85.13.0 “Services of dental clinics” using 2004 fiscal data. According this study the number of dental professional was 36,999 and each professional joined to one of 14 homogeneous clusters.

Variables used for clustering dental clinics/studies were:

- Typology of dental services
- Presence of odontotechnical activities
- Kind of patients
- Number of clinics for each professional
- Dimension of clinic and technical equipment
- Organizational model

After the analysis of economic and organizational data Sector Study identified 14 Clusters of dental studies with respect to:

- Typology of dental services (Cluster 1 and 5 specialized in orthodontics - 2 and 6 in dental prosthesis, 3 in oral surgery and dental implantation)
- Odontotechnical activities classifies Cluster 4, 5 and 6
- Clinics working for National Health Service (SSN) or Private Health Organizations (Cluster 7 and 8)
- Two or more clinics for each professional (Cluster 11 and 12)
- Small clinics (11 and 12) and medium-large studies (10 and 12)
- Clinics with associated dentists (13) and professionals without their own clinics and working for private organization or other clinics (14)
14 Clusters of clinics (dental offices)

- 1 Clinics specialized in orthodontics 1.110 (3,8%)
- 2 Clinics specialized in dental prosthesis 3.403 (11,6%)
- 3 Clinics specialized in oral surgery and dental implantation 1.112 (3,8%)
- 4 Clinics with odontotechnical activities 748 (2,5%)
- 5 Clinics specialized in orthodontics with odontotechnical activities 154 (0,5%)
- 6 Clinics specialized in oral surgery and dental implantation with odontotechnical activities 452 (1,5%)
- 7 Clinics working for the most part for National Health Service (SSN) 584 (2,0%)
- 8 Clinics working for the most part for Private Health Organizations 1.102 (3,7%)
- 9 Small Clinics 5.680 (19,3%)
- 10 Large dimension Clinics 6.335 (21,5%)
- 11 Professionals with two or more small clinics 2.769 (9,4%)
- 12 Professionals with two or more medium-large clinics 2.394 (8,1%)
- 13 Professionals working in association with other dentists 2.213 (7,5%)
- 14 Professionals with no studies and working for other dentists or dental organization 1.407 (4,5%)
Cluster 1: Clinics specialized in orthodontics 1.110 (3,8%)

- Independent clinics (72%) and individual firm (95%) with 1-2 technicians
- Average dimension: small 51 sm.
- Equipment: 1 Treatment Room, 1 compressor, 1 autoclave and 1 surgery aspiration (45%) and dental x-ray (43%)
- Yearly Expenses (in Euro):
  - Orthodontic device 6.709
  - Dental equipment and material 4.548
  - Disposables and disinfectants 1.070

Cluster 2: Clinics specialized in dental prosthesis 3.403 (11,6%)

- Independent clinics (93%) and individual firm (86%) with 1-2 technicians
- Average dimension: medium 61 sm.
- Equipment: 2 Treatment Room, 1 compressor, 1 autoclave and 1 surgery aspiration and 1 dental x-ray
- Yearly Expenses (in Euro):
  - Dental Prosthesis 14.382
  - Dental equipment and material 4.723
  - Disposables and disinfectants 1.220

Cluster 3: Clinics specialized in oral surgery and dental implantation 1.112 (3,8%)

- Independent clinic (87%) and individual firm (94%) with one administrative secretary and one assistant
- Average dimension: medium 65 sm.
- Equipment: 2 Treatment Room, 1 compressor, 1 autoclave and 1 surgery aspiration and dental x-ray
- Yearly Expenses (in Euro):
  - Dental Prosthesis 12.582
  - Dental equipment and material 12.432
  - Disposables and disinfectants 2.797
Cluster 4: Clinics with odontotechnical activities 748 (2.5%)

- Independent clinic (94%) and individual firm (77%) with 2 assistants and external support (64%)
- Average dimension: medium 78 sm.
- Equipment: 2 Treatment Room, 1 compressor, 1 autoclave and 1 surgery aspiration and dental x-ray
- Yearly Expenses (in Euro):
  - Dental equipment and material 10,644
  - Disposables and disinfectants 2,575

Cluster 5: Clinics specialized in orthodontics with odontotechnical activities 154 (0.5%)

- Independent clinic (78%), individual firm (70%) but 19% associated professionals, 4 assistants and external support (74%)
- Average dimension: large 118 sm.
- Equipment: 3 Treatment Room, 1 compressor, 1 autoclave and 1 surgery aspiration and dental x-ray
- Yearly Expenses (in Euro):
  - Dental equipment and material 14,903
  - Disposables and disinfectants 4,129

Cluster 6: Clinics specialized in oral surgery and dental implantation with odontotechnical activities 452 (1.5%)

- Independent clinic (86%), individual firm (63%) but 34% are companies, 2 assistants and light external support (36%)
- Average dimension: medium 64 sm.
- Equipment: 2 Treatment Room, 1 compressor, 1 autoclave, 1 surgery aspiration, 1 dental x-ray and 1 stove
- Yearly Expenses (in Euro):
  - Dental equipment and material 9,007
  - Disposables and disinfectants 1,643
Cluster 7: Clinics working for the most part for National Health Service (SSN) 584 (2.0%)

- Indipendent clinic (85%), individual firm (93%), 2 assistants and frequent external support (58%)
- Average dimension: medium 73 sm.
- Equipment: 2 Treatment Room, 1 compressor, 1 autoclave, 1 surgery aspiration and 1 dental x-ray
- Yearly Expenses (in Euro):
  - Dental equipment and material 6.977
  - Disposables and disinfectants 1.711

Cluster 8: Clinics working for the most part for private health organizations 1.102 (3.7%)

- Clinic working for other organization (59%) and individual firm (97%), no personnel but external support (42%)
- Average dimension: very small 33 sm.
- Equipment: 1 Treatment Room, 1 compressor 42%) and 1 dental x-ray (36%)
- Yearly Expenses (in Euro):
  - Dental equipment not relevant
  - Disposables and disinfectants not relevant

Cluster 9: Small Clinics 5.680 (19.3%)

- Indipendent clinic (90%) and individual firm (93%), no employees but external support (60%)
- Average dimension: small 44 sm.
- Equipment: 1 Treatment Room, 1 compressor, 1 autoclave, 1 surgery aspiration and 1 dental x-ray
- Yearly Expenses (in Euro):
  - Dental Prosthesis 8.079
  - Orthodontical device 2.889
  - Dental equipment and material 4.718
  - Disposables and disinfectants 1.104
Cluster 10: Large dimension Clinics 6.335 (21.5%)

- Independent clinics (91%) and individual firms (77%) but 18% are professionals’ associations, 3 assistants and relevant expenses for field staff
- Average dimension: large 98 sm.
- Equipment: 3 Treatment Room, 1 compressor, 1 autoclave, 1 surgery aspiration and 2 dental x-ray
- Yearly Expenses (in Euro):
  - Dental Prosthesis 23.555
  - Orthodontical device 2.538
  - Dental equipment 14.805
  - Disposables and disinfectants 3.422

Cluster 11: Professionals with two or more small clinics 2.769 (9.4%)

- In the most of case are 2 clinics, independent (96%) and individual firms (98%) with no personnel but external support (71%)
- Average dimension: 99 sm. about 50 sm for each study
- Equipment: 2 Treatment Room, 2 compressor, 1 autoclave, 1 surgery aspiration and 1 dental x-ray
- Yearly Expenses (in Euro):
  - Dental Prosthesis 13.685
  - Orthodontical device 3.495
  - Dental equipment 5.858
  - Disposables and disinfectants 1.521
Cluster 12: Professionals with two or more medium-large clinics 2.394 (8,1%)

- In the most of case are 2-3 clinics, independent (89%), individual (81%) or associated (16%) firms, with 3 assistants and relevant external support (81%)
- Average dimension: very large 163 sm.
- Equipment: 4 Treatment Room, 2 compressor, 2 autoclaves, 2 surgery aspiration and 2 dental x-ray
- Yearly Expenses (in Euro):
  - Dental Prosthesis 28.685
  - Orthodontical device 3.131
  - Dental equipment 15.902
  - Disposables and disinfectants 3.535

Cluster 13: Professionals working in association with other dentists 2.213 (7,5%)

- A single study is used by different professionals and the activity is individual (92%), with 2 assistants and frequent external staff (68%)
- Average dimension: medium-small 57 sm.
- Equipment: 2 Treatment Room, 1 compressor, 1 autoclave, 1 surgery aspiration and 1 dental x-ray
- Yearly Expenses (in Euro):
  - Dental Prosthesis 12.273
  - Dental equipment 7.420
  - Disposables and disinfectants 1.704
Cluster 14: Professionals without a clinic and working for other dentists or dental organization  
1.407 (4.5%)

- Cluster formed by dentists working for the most part in clinics and dental organization (92% of their incomes)
- Number of purchasers are less than 5 (64%) and one buyer generally generates the most part of revenues
- Yearly Expenses (in Euro):
  - Not relevant

Main evidences from the Sector Study can be appraised the following issues:

- **Dental sector is highly fragmented** but shows an important level of integration among different clusters
- An important part of the sector **has no or weak relationship with patients** and has the most part of activities (sales) on behalf of greater offices or SSN and private organizations
- Dentists with no own office or working in associated clinics are about 4,000, almost 10% of enrolled in Dentist Register
- **About 6,300 dentists operate in 2 or more offices with important equipment and high annual expenses in dental materials and prosthesis**
- Offices are owned in a great majority by single dentists but there is clinics belonged to companies and associated professionals
- Offices with higher levels of expenses for dental prosthesis and orthodontic devices have higher incomes and gross margins
- Higher levels of technological equipments are found in cluster 4, 2, 3 and 11 (offices specialized in prosthesis with an in-house laboratory or professionals with 2 or more offices)
- Incomes are higher in some districts (province) of Northern and Central Italy, specially big cities (Rome, Milan, Turin, Florence)
- However, more profitable clinics are located in small-medium cities in Northern Italy because of smaller competition among professionals
- Clinics have few employees but spend a lot for external collaborators in health and technical services
6. Tariffs

In order to evaluate tariffs for dental services we compared data collected in our surveys with prices pointed out in official documents by ANDI (Associazione Nazionale Dentisti Italiani) and by ISI, a big non profit clinic located in Milan.
We restricted our analysis to a few common interventions that represent for most of clinics the main source of revenues.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>ISI</th>
<th>Group A</th>
<th>Group B</th>
<th>ANDI Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whitening (for dental arch)</td>
<td>337</td>
<td>252</td>
<td>200-450</td>
<td></td>
</tr>
<tr>
<td>Simple filling of a tooth in child</td>
<td>75</td>
<td>80</td>
<td></td>
<td>60-100</td>
</tr>
<tr>
<td>Simple filling in adult (2 surfaces)</td>
<td>100</td>
<td>131</td>
<td>111</td>
<td>100-160</td>
</tr>
<tr>
<td>Reconstruction of a tooth using amalgam</td>
<td>145</td>
<td>138</td>
<td></td>
<td>130-200</td>
</tr>
<tr>
<td>Simple avulsion of a tooth in adult</td>
<td>97</td>
<td>82</td>
<td></td>
<td>60-130</td>
</tr>
<tr>
<td>Temporary crown</td>
<td>93</td>
<td>91</td>
<td></td>
<td>80-150</td>
</tr>
<tr>
<td>Root canal treatment (2 canals)</td>
<td>150</td>
<td>232</td>
<td></td>
<td>160-280</td>
</tr>
<tr>
<td>Single tooth with gold-ceramic crown</td>
<td>700</td>
<td>685</td>
<td></td>
<td>550-850</td>
</tr>
<tr>
<td>Prosthesis (for dental arch)</td>
<td>1,400</td>
<td>900-1,600</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- ISI is Istituto Stomatologico Italiano, a non profit organization located in Milan
- Group A 25 interviews: average values
- Group B 30 interviews: average values
- ANDI, Associazione Nazionale Dentisti Italiani, Nomenclatore e tariffario 2008

Results of our survey suggest that tariffs for dental services are generally lower than ANDI indications. However, prices vary largely because of different technologic equipment and dental materials used for a specific intervention.
High margins for professional can be observed in implants services and generally for prosthesis.
7. Financial aspects

About the half of professionals who were engaged in interviews and in filling out questionnaires work in offices offering financing facilities to their patients. This is an high percentage that underlines the trends in dental sectors and the effects of economic situation on patients. Most of financing facilities are short-medium term loans granted by financing organization. Loans are granted to the patients or in a few cases directly to the dentist and refunded by patients. Financial organizations allow market conditions and a margin also to the dentist in case of direct funding. Aside of these financial operations, generally dentists awards extension of payment to well-known patients and in case of expensive interventions.
8. **Authorization rules at Regional and Local levels**

Recent so-called *Bersani Law* deregulated some aspects in dental sector (advertising and clinic ownership). However, the opening of a new study is dependent to an authorization process defined by regional laws and these rules are very restrictive:

- Hygienic and structural conditions of location are assessed by Local Health District (Azienda Sanitaria Locale)
- Electric installation and plumbing must be verified and certified by qualified experts and checked every 2 years
- If clinic has Rx-equipment, authorization rules implicate a positive advice by Fire Department (Vigili del Fuoco), INAIL (Public Organization for Labour Security) and INPS (Social Security)
- Rx-equipment must be certified by a qualified expert with a report.

In our opinion, authorization rules and duration of administrative processes can be used in the future to delay or to daunt and deter the opening of clinics, especially in central and southern regions. Dentists’ Association, ANDI and AIO, and the Ordine dei Medici e Odontoiatri have great influence on political and administrative levels.
9. Main findings

Our study analysed different sources of data and focused on perceptions of sector evolution in the next years quoted by professionals and dental associations.

We noted a general agreement on the following issues:

A) the growth of Italian dental sector during last decade was mainly due to the growth of costs of equipment and dental materials. Prices of intervention had a relevant variation in a situation of weakness or diminishing weight of demand. For instance, in the past interventions with high costs and margins for professionals like prosthesis were more common than nowadays;

B) margins for independent professional have been diminished for three main reasons:
   - growing costs for dental materials and equipment
   - higher level of competition due to young dentists
   - the existence of a stable “black market” that naturally increases in periods of economic difficulties;

C) patients belonging to lower-middle classes of incomes are forced to postpone costly interventions and if necessary they apply to financial services;

D) it is true that dental sector in Italy is highly fragmented but at the same time it has an high level of integration. For this reason supply is mainly due to small and individual offices, but there are clusters of professionals with larger clinics or working for different offices. Suppliers of equipment and dental materials are a few firms with a fixed level in prices;

E) in Italy there are 1,5 dentists for each clinic but every professional works on average for 2,5 offices. So, it is growing a cluster of offices with middle-large dimensions and adequate technological equipment;

F) in respect of other countries (i.e. Spain) in Italy rents for buildings, labour costs and dental materials are higher. These factors reduce opportunities for younger professionals and as a whole margins and profitability of sector;

G) quality of interventions depends on professional experience (education and training), but in particular on quality of dental materials and dental equipment;

H) expansion of franchising clinics will be strictly linked to the diffusion of contractual relationship among clinics and private “third payer”, such as assurances, mutual organizations and funds;

I) a growing role it is expected to be played by regional health authorities with the diffusion of new kind of public coverage for patients inside or outside present LEA.